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## Fax Cover Sheet

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Fax Number: 571-273-6895

File Reference: Appl'n Serial No. 09/837,020

From:

Name: Michael Gzybowski

Date: 7/31/07 Time: 1:00pm

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Contact Phone No 734-213-3619

Message: Per Examiner Valenti's request, please find attached hereto a corrected "Related Appeals and Interferences" and a "Summary of Claimed Subject Matter" sections to be inserted into Appellants' Brief on Appeal filed November 24, 2003 and a Related Proceedings Appendix.

Appellent's attorney appreciates the Examiner's cooperation on this matter.

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## RELATED APPEALS AND INTERFERENCES

This application went to appeal under Appeal No. 2005-2520 in which a decision from the Board of Patent Appeals and Interferences was mailed on November 30, 2005.

## SUMMARY OF CLAIMED SUBJECT MATTER

As set forth in independent claim 1, the present invention is directed to a method of preventing defective germination or growth of a plant which comprises the steps of:

encapsulating at least one plant seed (of a light germinator (page 3, line 8)) in an aqueous gel capsule (page 3, lines 14-15) having a moisture content of at least 90% by weight (page 4, lines 17-18), the at least one plant seed having a size of 1 mm or less (page 3, line 6);

refrigerating the at least one plant seed under one of a humidifying condition (page 5, line 7-8) or in an airtight container (page 5, lines 8-10) so that moisture is not lost from the aqueous gel capsule (page 5, lines 7-10) and under the condition that the at least one plant seed does not germinate (page 5, lines 11-13); and

sowing the at least one plant seed (page 3, lines 4-5)

Claim 3 which depends from claim 1 recites that the refrigeration is carried out in a dark place (page 5, lines 11-13)

Claim 7 which depends from claim 1 recites that the at least one plant seed encapsulated in an aqueous gel capsule is a pelletized seed (page 6, lines 12-14)

Claim 13 which depends from claim 1 recites that the step of refrigerating the at least one encapsulated plant seed is conducted at a temperature of about 15°C or lower (page 5, lines 4-5) and for a sufficient period of time to improve the germination of the at least one encapsulated

plant seed as compared to non-refrigerated encapsulated plant seeds (page 4, line 21 through page 5, line 3).

Claim 15 which depends from claim 1 recites that the at least one plant seed comprises a seed of at least one of *Eustoma russellianum*, begonia, *Campanula portenschlagiana*, large-flowered *Campanula portenschlagiana*, *Digitalis purpurea*, *Primula malacoides*, *Primula obconica*, *Aquilegia*, *Almeria*, *Callistephus chinensis*, *Dianthus*, *Echinacea purpurea*, *Erigeron*, *Gaillardia*, *Helianthus annuus*, *Helenium autumnale*, *Heliopsis*, *Heuchera*, *Incarvillea delavayi*, *lychnis*, *salvia*, lettuce, tobacco, *perilla*, fig, burdock, mitsuba and celery (page 5, lines 14-24)

Claim 16 which depends from claim 1 recites that the gel capsule comprises at least one of Gellan gum, xanthan gum, Locust bean gum, carboxymethyl cellulose, pectin, gelatin, Carrageenan, sodium polyacrylate, sodium alginate, and agar (page 3, lines 15-19).

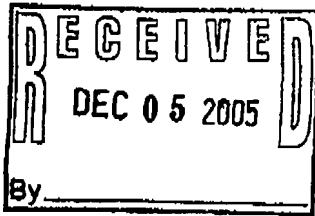
RELATED PROCEEDINGS APPENDIX

1. Appeal No. 2005-2520, *Ex parte* Yasushi Kohno and Noritoshi Katsutani

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

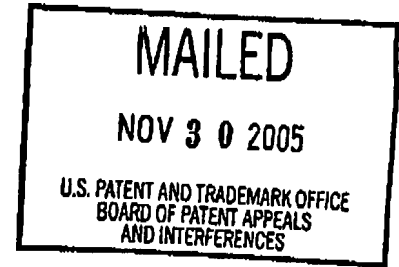
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES



Ex parte YASUSHI KOHNO  
and NORITOSHI KATSUTANI

Appeal No. 2005-2520  
Application No. 09/837,020 *TOR*

ON BRIEF



Before GARRIS, PAK, and KRATZ, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 1-13.

The subject matter on appeal relates to a method of preventing defective germination or growth of a plant comprising the steps of encapsulating a plant seed in an aqueous gel capsule, refrigerating the seed under the condition that the seed does not germinate, and sowing the seed. See specification, page 3. This appealed subject matter is adequately represented by claims 1 and 7, which read as follows:

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1. A method of preventing defective germination or growth of a plant comprising the steps of:

encapsulating at least one plant seed in an aqueous gel capsule;

refrigerating the at least one plant seed under the condition that the at least one plant seed does not germinate; and

sowing the at least one plant seed.

7. The method of preventing defective germination or growth of a plant as claimed in claim 1, wherein the at least one plant seed encapsulated in an aqueous gel capsule is a pelletized seed.

The references set forth below are relied upon by the examiner in the Section 103 rejections before us:

Asano	5,525,131	June 11, 1996
Kohno et al. (Kohno)	5,701,700	Dec. 30, 1997

O. Skarpaas, Population Viability Analysis for the Oyster Plant (*Mertensia maritime*) in the Oslojord Region, Cand. Scient. Thesis, University of Oslo (1998) at <http://www.personal.psu.edu/faculty/o/u/ous3/csabstr.html>.

Claims 1-6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohno in view of Skarpaas.

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohno and Skarpaas as applied to claim 1 above in view of Asano.

We refer to the brief, the reply brief, and to the answer and the Office Action mailed August 15, 2003 as Paper No. 18 which is referred to on page 3 of the Answer for a complete discussion of the opposing viewpoints expressed by the Appellants and by the Examiner concerning the above-noted rejections.

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### OPINION

For the reasons set forth below, we will sustain these rejections.

#### The Rejections Based on Kohno in view of Skarpaas

On page 8 of their brief, the Appellants present the following comparison of the methods defined by appealed claim 1 disclosed by Kohno:

Kohno et al. utilizes an aqueous gel coating composition that is rendered water-insoluble by metal ions. In order to ensure that the storage solution does not adversely affect the gel coating, the storage solution is provided with an osmotic pressure by adding salts listed at column 3, lines 1-9 therein.

In confirming that the storage solutions does not adversely effect the yield of the gel-coated seeds, Kohno et al. conducted comparative tests and concluded that:

The gel-coated seeds thus stored exhibit equal rate of germination and rate of sticking out to those of the gel-coated seeds immediately after preparation. (Column 3, lines 51-54).

The fact the Kohno et al. conducted comparative tests and concluded that the gel-coated seeds that were stored exhibited a rate of germination that was "equal" to that of non-stored seeds establishes that the process of Kohno et al. does not inherently improve germination of the gel-coated seeds.

Moreover, Kohno does not otherwise teach that the disclosed method improves germination or that there is any intent or goal to improve germination.

Kohno accordingly cannot be (and if fact has not been) relied upon alone for rendering appellants' claimed invention anticipated or obvious.

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Thus, Appellants believe that the independent claim on appeal requires improved germination and that Kohno's method does not achieve such a result. This belief is not well-taken.

Kohno expressly discloses a method for storing gel-coated seeds whereby the preserved seeds exhibit an equal rate of germination as gel-coated seeds not so stored (Kohno, column 3, lines 51-54). Kohno discloses the method comprising the steps of i.) encapsulating the plant seed in an aqueous gel capsule/coat (column 1, lines 12-20), ii.) refrigerating the seed in a cold solution (column 3, lines 16-30), and iii) sowing the plant seed (column 1, lines 22-25). These steps correspond to those claimed and disclosed by Appellants. For example, regarding the refrigerating step of claim 1 above, the Appellants teach that the refrigerating condition is at a temperature equal to or lower than 15°C, for a period of time that is longer than several days and shorter than several months in a humid condition to prevent water loss from the aqueous gel capsule. See specification, page 5. Similarly, Kohno discloses that the seeds are stored at a temperature between 0°C and 10°C for up to 20 days in an aqueous gel-coated capsule which has been made water-insoluble with a metal ion to prevent evaporation loss of water and thereby maintain a water content necessary for germination (column 3; lines 28-30 and lines 38-47).

From our perspective, the method of Kohno also satisfies the appealed claim 1 objective "preventing defective germination growth of a plant." This is because patentee teaches that, as a result of his method, the stored seeds have the same rate of germination as non-stored seeds. Therefore, the method of Kohno prevents defective germination in the sense that germination for stored seeds is not worse than the germination rate for non-stored seeds.



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As indicated above, the Appellants believe that the claims require an improved germination and repeatedly argue that Kohno fails to "improve germination of the gel-coated seeds." (Brief, page 8). However, this is not the case. The specification does not define the claim 1 phrase "preventing defective germination" to mean "improved germination". We therefore interpret this claim phrase to mean preventing defective germination relative to, for example, seeds not treated by the method in question. This is the case in Kohno, where the germination rate of the seeds after being stored for several days is still equal to the germination rate of the seeds immediately after preparation.

Even if improved germination were required by claim 1, as alleged by the Appellants, Kohno would satisfy such a requirement. In column 5, Table 3, the germination rates of seeds at different storage conditions are compared. The result shows that gel-coated seeds stored in accordance with patentee's method (Example 1) experienced the highest germination rate (e.g., up to 98%), while seeds stored by different methods (Comparative Examples 1 and 2) experienced lower germination rates (e.g., as low as 2%). Also, seeds stored at 2°C (Example 1) have the improve germination rate of 98% while the seeds stored at 20°C have the rate of 18-21% (Comparative Example 2). Therefore, Table 3 of Kohno shows improved germination for patentee's Example 1 seeds relative to the seeds of Comparison Examples 1 and 2.

For the reasons set forth above, we find that Kohno anticipates claim 1. As state in *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982), "[t]his court has sanctioned the practice of nominally basing rejections on § 103 when, in fact, the actual ground of rejection is that the claims are anticipated by the prior art... The justification for this sanction is that a lack of novelty in the claimed subject matter, e.g., as evidenced by a complete disclosure of the

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invention in the prior art, is the 'ultimate or epitome of obviousness'." It follows that our finding of anticipation supports a *prima facie* case of obviousness under Section 103.

In light of the foregoing, we sustain the Examiner's Section 103 rejection of claims 1-6 and 13 as being unpatentable over Kohno in view of Skarpaas.<sup>1</sup>

The Rejection Based on Kohno, Skarpaas and Asano

In support of nonobviousness, the Appellants argue "it is very difficult to carry out a refrigeration treatment for a pelletized seed prior to sowing, because pelletized seeds formed with clay materials per Asano would tend to dissolve during the preservation in the cooling solutions of Kohno et al." (Brief, paragraph bridging pages 14-15). In contrast, we observe that Asano expressly discloses that his pelletized seeds include a coating of waterproof clay minerals and hydrophobic compound, (e.g., column 3, lines 3-10). These materials make the coating insoluble in water. Further, the gel coating in Kohno would prevent the seed coating in Asano from being exposed to the cooling solution during Kohno's refrigerating process.

Furthermore, the combined teachings of these references would have motivated one of ordinary skill in the art to practice Kohno's method on Asano's pelletized seeds in order to improve the machine sowing process (e.g., Asano, column 1, lines 14-16) while preventing the seeds from defective germination by the refrigerating process (e.g., Kohno, column 3, lines 51-54). In response to Appellants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

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<sup>1</sup> In light of our disposition of this rejection, a discussion of Skarpaas is unnecessary.

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combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In light of the foregoing, we also sustain the Examiner's rejections of claims 7-12 in view of Kohno, Skarpaas and Asano.

## Summary

**The decision of the Examiner is affirmed.**

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(iv)(effective Sept. 13, 2004).

**AFFIRMED**

**Peter F. Kratz**  
**Administrative Patent Judge**

## BOARD OF PATENT APPEALS AND INTERFERENCES

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